Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of:	)	
	)	
Amendment of the Commission's Rules &	)	
Policies to Improve the Translator Interference	)	RM No. 11787
Complaint Process	)	
	)	
	)	

To: The Commission

COMMENTS
OF
PUEBLO BROADCASTING GROUP

Summary

Pueblo Broadcasting Group LLC ("Pueblo") hereby submits these Comments in the above-captioned Petition for Rulemaking pursuant to the Public Notice Report No. 3076 (released April 27, 2017). Pueblo is the owner of KIQN, a full-powered Class C1 FM broadcast station in Colorado. This is a small family operation. We spent several hundred thousand dollars, along with many years of blood, sweat, and tears, to build the station from the ground up. As recent "front-line" participants in a protracted three-year battle to remove first-adjacent translator interference caused by K276FL, we feel that we are uniquely qualified to comment on the NAB Petition.

We agree with the overall sentiment expressed in the NAB Petition that the existing translator interference remediation process is in need of improvement. However, we disagree with some of the specific rules and policy changes suggested by NAB. Although a few of these proposals may appear to be benign or innocuous, they will have the practical effect of making it even more difficult and time-consuming for full-powered primary stations to expeditiously address interference caused by new translators.

The existing translator remediation scheme is dysfunctional because social engineering has been allowed to replace RF engineering. The concept of "bona fide listeners" is being misused and misapplied. Translator operators use any alleged connection, however remote or contrived, in an attempt to discredit legitimate complaints from further consideration. This manipulation facilitates a situation where translator operators are allowed to delay, stall, and stonewall for excessive periods of time, with the translator making money during the delay and the full-powered station getting the short end of the stick. The translator operator has no incentive to work towards a resolution. The result is a stalemate where nothing gets resolved.

Social engineering needs to be decoupled from radio engineering. In order to prevent enormous legal and technical expenses faced by licensees, as well as significant Commission staff time in the event of a translator interference conflict, the concept of a "bona fide listener" needs to be replaced with an objective "Go/No-Go" engineering determination. Because the FCC screens translator applications using the F(50,50) and F(50,10) curves, many cases of translator interference occur where these curves are NOT representative of actual, real-world coverage. Thus, we present two proposals for consideration. A first proposal uses Longley-Rice or Point-to-Point propagation methodology in conjunction with established Desired-to-Undesired interference ratios to determine whether or not a translator is interfering

with a primary station. A second proposal uses actual measured signal strength values at a set of offending locations to determine whether or not the translator would be interfering with a usable signal from the primary station. This second proposal operates in conjunction with a translator on-off test. Either of these proposals is more objective than the existing social engineering approach which is subject to manipulation, and which results in wildly unpredictable outcomes for translator proponents as well as owners of primary stations.

Respectfully Submitted,

Steven R. Bartholomew

Steven R. Bartholomew
President
Pueblo Broadcasting Group LLC
2099 U.S. Highway 50 West, Suite 130B
Pueblo, CO 81008
beaconmountain@yahoo.com
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I. Translator Interference is A Serious Problem

A group of recently-published trade journal articles written by translator advocates suggests that translator interference to full-powered stations is not real, and that full-powered stations are somehow gaming the system. As the owner of a full-powered station, I resent the offensive implications and false insinuations that these misleading articles are asserting. See, for example, "Are Broadcasters "Gaming" the Translator Rules?," written by Randy J. Stine and published in Radio World on May 10, 2017 (hereinafter referred to as the "Stine article").

It is misleading and inaccurate to characterize full-powered stations as "distant" "bad actors" who are "fostering" the filing of complaints "far outside" their community of license. When a station in a bedroom community is truly offering substantial service to its residents and others in the surrounding areas and has been doing so for a significant period of time, a new translator for an existing AM station should not be allowed to defeat or supplant its service, or to destroy the substantial investment made by the full-powered primary station in service and capital.

Any claim that a full-power primary station would attempt to game the system does not stand up to close scrutiny. Who are you trying to kid? The owner of a primary station is not going to endure the significant legal and engineering expenses, prolonged aggravation and high stress levels inherent to a translator remediation proceeding, just to protect a couple of listeners living in what is genuinely an outer-fringe area where the signal is indeed difficult or impossible to receive. We wouldn't go down this road, even if it were theoretically possible. It wouldn't make sense. Advertisers would never notice such a de minimis signal incursion. On the other hand, if a mountaintop translator with the exact coverage of a full-powered Class C2 station takes away over half of our listeners (as actually happened to us), you'd better believe that we are going to complain about it. If a full-powered primary

station files a complaint, it's going to be in response to a serious and major loss of actual listeners as the direct result of a new translator going on the air. It's definitely NOT going to be about a de minimis loss of two listeners at the outer fringes.

Translator operators are like bullies that attack their victims, and then complain that the victim initiated the attack. They squeeze their facility into the tiniest crevice within the central core of a heavily populated area, use 250 watts from the tallest mountain peak or television tower to obtain the equivalent of Class C2 coverage, use an unverified, off-the-shelf directional antenna, bump right against the 60-dBu contour of the primary station, and then wonder why they are causing interference. Go figure.

In the past, I have observed many situations where translator interference to a full-powered station is very real and extremely damaging. This is particularly true of co-channel and first-adjacent-channel interference. Advertisers complain, threaten to cancel, and demand refunds. Listeners complain and threaten to turn to another station. Both the advertisers and the listeners tell the full-powered station that the interference is the station's problem, and NOT the problem of the advertiser or the listener. Neither the advertisers nor the listeners have the time or the inclination to file a complaint against the interfering translator. They tell the station owner to call the FCC. So the full-powered station is suddenly thrown into an extremely precarious defensive position due to no fault of its own.

The issue of translator interference is particularly problematic in smaller markets that are just beyond a much larger market. It is not just the owners of rimshot stations that are trying to play in the larger market, many of whom have paid dearly for the privilege of owning a full-powered station. Unlike an opportunist who pays $20K or $30K for a giveaway translator, the independent owners of these rimshot facilities have invested several hundreds of thousands of dollars or more to build and

promote their full-power facilities. Without a doubt, these independent owners would have preferred to purchase a full-market signal from one of the large corporate groups, but they often lack the financial means to do so. It should also be noted that translator interference can also hurt the small-market operator that has no intention of trying to serve the larger market, especially in situations where translators are using quasi-Class C2 facilities.

II. Our Harrowing Three-Year Translator Interference Ordeal

Translator K276FL had been operating on 90.9 MHz in Colorado Springs since May of 1995, causing no interference to KIQN on 103.3 MHz. However, in September of 2010, the FCC allowed this translator to make a non-adjacent-channel change to 103.1 MHz because K276FL was experiencing second-adjacent-channel interference from KTLF-90.5. With the exception of adding IBOC, KTLF has been using the same facilities since October of 1974.

K276FL started broadcasting on 103.1 MHz in March of 2011. At that point in time, we had already invested over a million dollars in acquiring the KIQN-103.3 MHz construction permit, building the station from the ground up, and engaging in extensive audience development activities throughout Colorado Springs, Pueblo, and Colorado City.

The new 103.1-MHz incarnation of K276FL was authorized to use 250 watts atop Cheyenne Mountain, just to the South of Colorado Springs. This site is 2,135 feet above average terrain, providing K276FL with coverage equivalent to that of a full-powered Class C2 station. But even this impressive HAAT figure doesn't tell the whole story. Some of the radials directed across the most populous portions of Colorado Springs and El Paso County were a staggering 3,720 feet above average terrain. The excessive height of K276FL's facility gave K276FL a definitive upper

hand over full-powered KIQN throughout Southern Colorado. In fact, our KIQN signal was completely obliterated throughout much of our listening area, including the most populous areas of Colorado Springs, El Paso County and the northern portion of Pueblo County.

KIQN is not a station seeking to "extend" its signal into the Colorado Springs metropolitan area. The signal is already there and relied upon by existing listeners! KIQN regularly serves commuters between Pueblo and Colorado Springs. We focus our programming on the informational needs of El Paso and Pueblo Counties, including Colorado Springs, Pueblo, and the surrounding suburban communities.

Due to the prevalence of mountainous terrain in our area, the F(50,50) curves do not provide a representative indication of our actual coverage. However, standard Longley-Rice calculations indicate predicted signal strengths in the 60 dBu to 75 dBu range throughout many areas of Colorado Springs. These Longley-Rice calculations are supported by actual field strength measurements performed pursuant to §73.314(b), which indicate consistent, reliable KIQN signal strengths in the range of 60 dBu to 75 dBu.

At the very outset of the K276FL move, we received several dozen complaints from listeners in Colorado Springs and El Paso County, along with a similar group of complaints from listeners in Pueblo County. Although we are supposed to be a Class C1 station, the devastating first-adjacent-channel interference reduced our coverage to that of a small Class A facility.

We presented these complaints directly to the translator owner. They responded in March of 2012 by filing an application to move the translator to a non-adjacent channel, 99.3. The translator's engineer prepared an exhaustive study indicating the strong signal levels that are produced by KIQN in many parts of Colorado

Springs due to the highly favorable terrain path. His Longley-Rice calculations indicated a strong likelihood of severe interference between KIQN and K276FL throughout Colorado Springs. But alas, in April of 2012, the FCC denied the translator's displacement application, indicating that the proposed move was to a non-adjacent channel and therefore not possible. We were perplexed, as K276FL was previously allowed to move from 90.9 to 103.1 as a non-adjacent channel change due to second-adjacent interference (between 90.5 and 90.9), and our case was much worse because it involved first-adjacent interference (between 103.1 and 103.3).

In April of 2012, we filed a pleading with the FCC including over fifty new listener complaints. The translator's new attorney responded in October of 2012, alleging that the complaints were all bogus and completely denying the existence of the severe interference. The complaints were alleged to be bogus and not "bona fide" based on an incorrect assumption that the complaints were somehow procured at station-sponsored events. Although the attorney was so sure that there was no interference while sitting in his office over 3,000 miles away, it was very real to our advertisers, and it was very real to our listeners. Throughout late 2012 and early 2013, we continued to receive a steady stream of complaints which were periodically submitted to the FCC. These complaints resulted in the translator owner filing a minor modification application to make a move to their IF frequency of 92.5 MHz.

Unfortunately, it turned out that the translator owner was in no hurry to move to 92.5. We offered to buy them a new antenna, and we even offered to pay for a tower crew to install it, all to no avail. The interference continued, unabated, through the summer of 2013, and then into fall and winter. Then 2014 arrived, winter turned into spring, and spring turned into summer. The FCC still took no action. Advertisers canceled their orders and demanded refunds. Listeners threatened to switch to

other stations. These listeners and advertisers expressed the view that the interference was our problem, not theirs. They had other duties and obligations, and felt that we should be able to place a quick call to the FCC to resolve the matter for once and for all. We were stuck with the equivalent of Class A coverage without compensation, and it seemed as if the situation would drag on forever.

In desperation, we filed a minor modification application in August of 2014 to move our full-powered station from 103.3 to 103.1 MHz, effectively becoming co-channel to the interfering translator. This approach resulted in the translator finally moving from 103.1 to 92.5, bringing the long-standing interference saga to a close.

Every time that we have had to deal with translator interference, it ends up costing us anywhere from $10,000 to $20,000 in legal and engineering fees. This does not include advertising losses. Advertisers complain and threaten to cancel their ads. Listeners complain and threaten to switch to other stations. We have no way of recovering these fees, as they represent a complete out-of-pocket loss. Then, to add insult to injury, another translator operator can propose a new facility that is almost identical to that of the old translator that was thrown off the air, and the expensive process can be repeated any number of times. The FCC should make note of these situations, and not approve subsequent translator proposals that are substantially similar to translators that were previously taken off the air.

III. The NAB Proposal Requiring a Minimum Number of Complaints Will Make It Even More Difficult for Full-Power Primary Stations to Address Legitimate Translator Interference Issues.

We agree with the overall sentiment expressed in the NAB Petition that the existing translator interference remediation process is in need of improvement. However, we

disagree with some of the specific rules and policy changes suggested by NAB. Although a few of these proposals may appear to be benign or innocuous, they will have the practical effect of making it even more difficult for full-powered primary stations to expeditiously address interference caused by new translators. For example, contrary to NAB's suggestion of establishing a minimum required number of complaints, we believe that the language in Section 74.1203(a)(3) and Section 74.1204(f) should be strengthened and simplified to facilitate efficient and rapid remediation of interference.

The existing translator remediation scheme is already being abused by translator proponents. Translator owners game the system by denying even the most egregious levels of interference. They compound the injustice by doing everything in their power to indefinitely delay a full investigation and resolution of the problem. The present remediation scheme should not be modified to further threaten the continued viability of full power stations.

Based on first-hand experience, the scheme is dysfunctional because translator operators are allowed to delay, stall, and stonewall for excessive periods of time, with the translator making money during the delay and the full-powered station getting the short end of the stick. These delays are caused by translator proponents grasping at straws and engaging in extreme measures to try to discredit bona fide complainants. It's not the full-powered stations that are gaming the system, it's the translator operators. It's easy for a translator attorney sitting 3,000 miles away to claim that the interference doesn't exist, but the interference is very real to advertisers and listeners. Advertisers cancel, listeners leave. Advertisers and listeners both claim that the interference is the primary station's problem, not theirs.

Translators are never in any rush to settle anything because, even if they know they are causing interference, they are still cashing in while the full-powered station is

thrown into a downward financial spiral. The status quo works to the full advantage of the translator, not the full-power primary station. The interference is absolutely horrendous, oftentimes rendering a broadcast channel completely unlistenable across a vast area. But lawyers assist the translator in prolonging the controversy by muddying the water, arguing that black is white and up is down, making it impossible to resolve anything. Frustration levels go through the roof. Improvements are needed, but not at the expense of making it even more difficult for the primary station to remediate interference.

IV. The Concept of the "Bona Fide Listener" is Being Misused

From a practical standpoint, NAB's proposal setting forth a minimum number of complaints as a pre-condition for interference remediation is a poor idea. This is because concept of the "bona fide listener" is being misused and misapplied. Translator operators use any alleged connection, however remote or contrived, in an attempt to discredit legitimate complaints from further consideration. This manipulation facilitates a situation where translator operators are allowed to delay, stall, and stonewall for excessive periods of time, with the translator making money during the delay and the full-powered station getting the short end of the stick.

The translator operator plays the game by scouring social media sites to locate the most tenuous of connections between the complainants and the full-powered primary station. For example, the complainant may have one Facebook connection in common with the receptionist at the primary station, even though these two individuals are not directly linked. Or the complainant may be in the same bowling league as the cousin of the owner of the primary station. Or a salesperson at the primary radio station may attend the same church as one of the complainants.

Although these types of distant connections constitute attempts to grasp at straws, the translator proponent trumps them up, using the concept of “bona fide” as an excuse to avoid having to address legitimate claims of interference. This practice frustrates any attempt to set a minimum number of acceptable complaints. In a small to medium-sized community, every single individual is going to be connected to everyone else if you dig deeply enough. This situation would serve to disqualify every single possible complainant. Moreover, incredible as it sounds, almost every social media participant in the United States is connected to Donald Trump via a link that consists of only five or six connections.

By way of example, a full-power primary station could present the translator operator with sixty complaints, but the translator operator claims that only one of these complaints is bona fide based upon second-cousin family relations, third-degree Facebook connections, and fourth-degree church connections that are alleged to apply to the remaining 59 complaints. Following this example, the NAB’s proposal of a six-complaint minimum could result in no translator interference remediation being performed.

Translators misuse the Bona Fide concept to cast a deep shadow over perfectly legitimate complaints, to thereby delay the remediation process indefinitely so that the translator continues to win while the full-powered station continues to lose. Given the existing remediation process, the translator operator’s opinion about the bona fide nature of the complaints, however erroneous, is allowed to stand indefinitely, for months or years or forever, before anyone steps in to intervene. Any requirement to have a minimum number of complaints, as proposed by the NAB, is simply going to make it that much easier for the translator proponent to prevail over the full-power station.

V. For Every Listener that is Motivated, Organized, and Sufficiently Capable to File and Follow Through with a Complaint, there are Dozens of Additional Listeners that Do Not Have the Time, Motivation, or Capability to Identify Translator Interference, Prepare a Complaint, and Figure Out Where to Send It

Complainants do not wish to become part of an ongoing, time-consuming legal proceeding, nor do they wish to be hassled and inconvenienced by radio station personnel entering their homes or riding with them in their cars. Accordingly, even though a primary station may receive only a small handful of complaints, it should be emphasized that these complaints do not have a one-to-one correspondence with the number of actual station listeners. In view of several reasons to be described in greater detail hereinafter, for every complaint received by the primary station, there are dozens of additional listeners who did not submit a complaint.

Even if a listener enjoys the programming of a specific full-power radio station, their lives do not center around radio. They have other things going on in their lives. They have jobs, families, demands, and problems of their own. They may not have the time or the inclination to go down on the wrestling mat for a radio station, even a radio station that they love. This factor reduces the number of listener complaints that will be received by the primary station.

Many listeners do not trust the all-powerful government, and would rather not get involved in any matter that involves a federal agency. Because their complaint would become part of "official government records," many listeners are scared away from drafting and submitting a complaint. And almost no one wants to sign any document that includes the word "perjury." This term suggests to the listener that he or she could face jail time if the translator proceeding takes a wrong turn. Why would any listener be willing to take such a big risk without receiving any corresponding benefit? More specifically, at the time that the complaint is filed, the

listener has to expose himself to the possible risk of being found guilty of perjury, and yet it is uncertain as to whether reception of his or her favorite station will ever be restored. Even the most truthful of listeners is concerned that their words could somehow be twisted around in an unanticipated manner to thereby result in a severe penalty.

Many listeners feel that the interference is the station's problem, not their problem. After all, why can't the station just simply place a call to the FCC to resolve the issue for once and for all? These types of listeners are not likely to follow through with a complaint. Station advertisers also frequently adopt this point of view.

In addition to the foregoing factors, many listeners are not technically adept. The layman may conclude that actual translator interference is instead being caused by something wrong with the full-power station, and thus not be sufficiently motivated to take further action. For example, in days gone by, first-adjacent interference would often feature the unmistakable audio of the interfering station breaking through. However, modern radios have tighter IF filters, or use a DSP approach, where first-adjacent interference occurs in a more subtle form, as a dramatic increase in the noise level when trying to listen to the desired station. Laypeople may think that the primary station is weak when, in fact, the primary station would clear up 100% if an on-off test was conducted at the translator.

VI. The Present Regulation Requiring Remediation to the Satisfaction of Listeners for Complaints to be "Bona Fide" is an Unrealistic and Impractical Process Requirement

Listeners are burdened with the requirement of investing what turns out to be a significant amount of time and effort working through a complaint with the translator's engineering team. Unlike the idyllic lifestyles that have prevailed in

years past, life in the Twenty-First Century presents listeners with a full plate. The demands of a hectic work schedule, coupled with a busy family life, creates a situation where many listeners simply cannot set aside recurring blocks of time to meet with engineers. Likewise, few if any listeners wish to spend precious free time in an adversarial situation that could explode into a contentious argument.

It is often the case that the complainant does not wish to get involved any further, in hopes that the full-power station will be able to take over the matter without any further input from the listener. The primary station cannot "subpoena" the complaining listener/witness to compel them to follow through on their complaint. The practical effect is that a large number of received complaints often turns into a much smaller number as a result of listener unavailability. Even after a large group of complaints is received, one often has to go through dozens of these complaints in order to locate even one or two listeners who are able and willing to expend the substantial time and effort to stand behind their complaint, along with the requisite endurance to put up with the inconvenience of following through to the bitter end. ***For this reason, NAB's proposal for defining a minimum threshold number of complaints is not practical and unfairly prejudices the full-power primary station.***

Moreover, after willing complainants are identified, these individuals are often subject to unwarranted abuse, bullying, and game-playing at the hands of the translator proponent. This serves to further reduce the number of viable complaints. ***Instead of trying to work together in a fair, honest, collaborative manner to identify and resolve the issue, the translator proponent intimidates the complainants in every way possible***, by suggesting that they are participating in an official government process, and implying that they could be severely punished or jailed if they inadvertently make an incorrect statement about a complicated

engineering matter. The complaining listeners are presented with an exhaustive, several-pages-long questionnaire prepared by the translator proponent, overloaded with misleading trick questions and legalese that, if not understood properly, may result in the listener's interference complaint being summarily dismissed. Instead of working towards a fair, balanced, equitable, and prompt resolution, the translator proponent hopes to stall and stonewall for as long as possible. This tactic may be especially effective for the translator proponent in cities with relatively transient populations, where members of the military and college students are constantly transferring in and out of the area. The longer you delay, the greater the chance that even more complaining listeners have already moved out of state. During this lengthy stonewalling period, the full-power station loses money and listeners, while the translator proponent profits immensely at the expense of the full-power station.

VII. Social Engineering Needs to be Decoupled from Radio Engineering

In view of the foregoing considerations, it would be inappropriate and unduly burdensome to require a certain minimum number of complaints as a precondition to remediating translator interference. It is all too easy for the translator proponent's attorney to engage in gamesmanship and stalling tactics in an effort to indefinitely prolong the conflict and wear down the full-powered station. This proposal would further facilitate extreme stonewalling tactics.

Translator interference remediation proceedings have abandoned RF engineering in favor of social engineering, where extensive amounts of time are spent debating issues such as whether a complainant who has one Facebook connection in common with the janitor at the full-powered radio station is a bona fide complainant. Facebook, LinkedIn, MySpace and other social media websites should have nothing whatsoever to do with the process of resolving issues that are rooted

in the laws of physics. Social engineering needs to be decoupled from radio engineering.

VIII. In Order to Prevent Enormous Legal and Technical Expenses Faced by Licensees, as well as Significant Commission Staff Time in the Event of A Translator Interference Conflict, the Concept of a "Bona Fide Listener" Needs to be Replaced with an Objective "Go /No-Go" Engineering Determination

An objective "go/no-go" approach based on RF engineering considerations will provide translator operators with greater security and predictability. Translators need no longer worry about trumped-up complaints from locations at which it is practically impossible to receive the primary station. Full- powered stations need no longer worry about long, protracted battles involving horrendous interference where the Commission takes no action because it is unable to determine the actual situation "on the ground". With an objective engineering determination, it will no longer be possible to throw a translator off the air if the translator is not causing interference. It will no longer be the translator's word against the primary station's word, where so much mud is flung against the wall that it's impossible to figure out which side is right and which side is wrong.

A "go/no-go" engineering approach eliminates a shortcoming of the bona fide listener requirement, in that it decouples the issue of station format from the remediation process. In some cases, remediation has resulted in a translator being taken off the air when a primary station uses a popular or unique format. One example is primary station KNXR-97.5, Rochester, MN, which featured a unique easy-listening format through January of 2015. But if the primary station had been using a less compelling format, the exact same level of physical interference would have most likely allowed the translator to remain on the air. This arbitrary outcome does not make sense and should be replaced with a more objective standard.

IX. Because the FCC Screens Translator Applications Using the F(50,50) and F(50,10) Curves, Many Cases of Translator Interference Occur in Situations Where These Curves are NOT Representative of Actual, Real-World Coverage

A first proposed "go/no-go" approach to translator interference remediation is based on objective standards, along with a realization that the F(50,50) curves and F(50,10) curves often provide misleading results in mountainous terrain. This first approach analyzes the primary station and the translator using Longley-Rice or Point-to-Point propagation methodology. Essentially, the translator wins if no Longley-Rice cells indicate a violation of currently established Desired-to-Undesired signal ratios. On the other hand, the primary station wins if one or more Longley-Rice cells indicate a violation of these ratios. This approach does not involve the problematic concept of a bona fide listener, nor does it involve pre-identification of any specific offending locations. The offending locations are accurately identified by the Longley-Rice test itself. Further technical details about this implementation are provided hereinafter.

X. The NAB's Concept of ON-OFF Testing Should Be Embraced

A second proposed "go/no-go" approach to translator interference remediation takes actual field strength measurements of the primary station at one or more offending locations using the procedures described at § 73.314(b). This approach also overcomes the limitations of the F(50,50) and F(50,10) curves in areas of non-uniform terrain. For this approach, we are interested in determining the credibility of the primary station in serving the one or more offending locations. Therefore, the translator is to be turned OFF during the field strength measurements, and no desired-to-undesired ratios are calculated.

This second implementation does not involve the problematic concept of a bona fide listener, but instead uses listener complaints for the sole and exclusive purpose of identifying the offending locations. Using a simple, straightforward, objective test, complaints from station employees or owners would not be accepted. In order to conserve time and resources, the primary station would be permitted to use these complaints to designate up to twenty offending locations. However, in order to avoid cherry-picking a single unusual or non-representative location, the licensee of the primary station would be required to designate at least three offending locations.

The average measured signal strength of the primary station is calculated at each of the offending locations to generate a set of averaged measured signal strengths. A predefined minimum signal strength threshold is applied to the set of averaged measured signal strengths to identify a first set of offending locations that exceed the minimum signal strength threshold, and also to identify a second set of offending locations that do not exceed the minimum signal strength threshold. If the first set of offending locations is at least 25% of the total number of offending locations (first set plus second set), then the full-power station “wins” and the translator must move. If the first set of offending locations is less than 25% of the total number of offending locations (first set plus second set), then the translator “wins” and is allowed to remain in place. Further technical details about this approach, including a reasonable minimum threshold value to be applied to the primary station, are provided hereinafter.

XI. Details of the First Proposed Approach to Translator Interference Remediation

This first proposed approach to translator interference remediation could be treated as a first counterproposal to the NAB Petition. When predicting coverage areas for over-the-air digital television (HDTV) stations, the FCC does not use the standard

F(50,50) curves. Rather, the FCC employs Longley-Rice methodology to evaluate DTV and NTSC coverage and interference. This methodology is described in greater detail in Office of Engineering and Technology (OET) Bulletin 69.

The Longley-Rice methodology is much better suited to calculating reasonable estimates of signal strength in areas of uneven terrain as compared to the older and less sophisticated F(50,50) approach. It should be noted that VHF low-band channels 2 through 6 operate in the 54-88 MHz range, immediately adjacent to the FM broadcast band. The same laws of physics apply to TV channels 2-6 and the FM broadcast band. If Longley-Rice is good enough for TV, then it should also be good enough for FM.

Incidentally, many translator conflicts, both past and present, are an undesired byproduct of inherent inaccuracies in the F(50,50) curves. Just because the curves show that the interfering contour of the translator barely clears the protected contour of the full-powered station (at least on paper according to §73.1204), the translator is allowed to be built, whereupon the result is massive destructive interference. However, a quick analysis with Longley-Rice software often reveals the source of the problem. In fact, a majority of the translator conflicts I have studied involve terrain conditions where the Longley-Rice coverage of the full-powered station, or the translator, or both, extends well beyond what the F(50,50) curves would predict.

We propose that the FCC use Longley-Rice methodology on the FM broadcast band, but solely and exclusively for the limited purpose of dealing with translator interference, and not for any other purpose. This could be implemented in one of two ways.

<u>Variation “A” of the First Proposed Approach</u>

Pursuant to Variation “A” of the First Proposed Approach, Longley-Rice methodology would be used throughout the entire translator application process, from start to finish, with a set of standardized assumptions being applied, and a standardized software package being employed. As a practical matter, it is submitted that this approach would eliminate the need for subsequent remediation procedures in a vast majority of potential translator interference situations by ***properly vetting non-sustainable translator applications at the outset***.

According to Variation “A”, a translator would not be allowed in the first place unless all Longley-Rice cells indicate adequate Desired-to-Undesired interference ratios using the currently established values for co-channel and first-adjacent-channel interference. In other words, the same Desired-to-Undesired interference ratios would apply to Longley-Rice predicted values as are currently applied to the conventional F(50,50) predicted values. The 40-dBu Longley-Rice cells representing the interfering contour of a translator would not be allowed to overlap the 60-dBu Longley-Rice cells of a co-channel, full-powered Class A or Class C station. Likewise, the 54-dBu Longley-Rice cells representing the interfering contour of the translator would not be allowed to overlap the 60-dBu Longley-Rice cells of a first-adjacent, full-powered Class A or Class C station. If there is any such overlap of the Longley-Rice cells, the translator application would not be approved. If there is no such overlap of the Longley-Rice cells, the translator would be approved. If a translator is approved in this manner, the Longley-Rice study could be used to support a presumption that the translator is not causing real-world interference to a full-powered station. This approach would provide a measure of security and stability to translator operators.

Variation “B” of the First Proposed Approach

Pursuant to Variation “B” of the First Simplified Approach, the FCC F(50,50) curves would continue to be used for all purposes other than actual translator interference remediation, including the initial approval of translators. The only time that Longley-Rice would be triggered is in response to an allegation of interference brought forth by a primary station. This variation does not involve the problematic concept of bona fide listeners, nor does it involve pre-identification of any specific offending locations. The offending locations are going to be accurately identified by the Longley-Rice test itself. Although the full-powered station would be free to bring forward a complaint on its own motion, it should be emphasized that subsequent processing of the complaint would automatically weed out claims of extended service that are not credible.

Instead of engaging in a protracted battle of psychological warfare to determine who is a bona fide listener and which complainants can be readily intimidated, the outcome of the translator dispute would be determined solely by performing a Longley-Rice study of the full-powered station versus the translator. The same Desired-to-Undesired interference ratios would apply to Longley-Rice predicted values as are currently applied to the conventional F(50,50) predicted values. Thus, the 40-dBu Longley-Rice cells representing the interfering contour of a translator would not be allowed to overlap the 60-dBu Longley-Rice cells of a co-channel, full-powered Class A or Class C station. Likewise, the 54-dBu Longley-Rice cells representing the interfering contour of the translator would not be allowed to overlap the 60-dBu Longley-Rice cells of a first-adjacent, full-powered Class A or Class C station. If there is any such overlap of the Longley-Rice cells, the translator would have to move. If there is no such overlap of the Longley-Rice cells, the translator would be allowed to remain in place.

Administrative Expediency

The Longley-Rice approach is not going to be 100% accurate in 100% of the conflicts that may occur between full-powered stations and translators. However, automated Longley-Rice calculations are reasonably accurate most of the time (assuming that appropriate initial assumptions are made), and MUCH better than the problematic FCC F(50,50) curves that are currently being used for approving translators. This approach will provide an enhanced measure of administrative expediency. These calculations could likely be handled by OET. This will free the FCC staff from having to deal with endless, time-consuming, back-and-forth attacks between the full-powered station and the translator proponent. Likewise, the go/no-go determination will be based on objective factors, instead of using listeners as a means for engaging in a battle of psychological warfare. This proposal would eliminate or reduce the agonizing game-playing and delay tactics on the part of translator proponents that characterizes many existing translator disputes.

In areas of varying terrain, Point-to-Point and Longley-Rice propagation methods provide predicted field strength values that agree closely with actual measured values, leading to more accurate conclusions in contrast to the conventional F(50,50) curves. For example, KIQN's relatively high signal level 50-80 miles to the north of our transmitter site is corroborated and verified by a number of widely-accepted alternative propagation prediction methods including Point-to-Point and Longley-Rice. At this distance, our signal reliably trips the local scan function on factory-installed car radios. Likewise, our signal is reliably and clearly received on simple $10 General Electric pocket radios and the like. The high signal level is due to the existence of a direct line-of-sight path where the transmitting end and the receiving end are both at high elevations, but the intervening terrain between the transmitter and the receiver is at a much lower elevation. If interested, the Office of Engineering & Technology (OET) is encouraged to study the specifics of our situation in greater detail as an illustrative example of favorable terrain. Likewise,

we would be willing to conduct actual over-the-air listening demonstrations for any interested parties who might be skeptical.

XII. Details of The Second Proposed Approach to Translator Interference Remediation

This Second Proposed Approach to translator interference remediation could be treated as a second counterproposal to the NAB Petition. This approach is based on a realization that the most relevant parameter governing interference remediation is the ACTUAL measured signal strength level of the full-powered primary station at the locations where translator interference is alleged. Actual field strength measurements of the primary station are taken at one or more offending locations using the procedures described at § 73.314(b).

Essentially, this approach focuses on evaluating the credibility of the full-powered station's claim that it can be heard at a particular location (or set of locations). We are trying to determine if the full-powered station was likely to be attracting listeners in the area in question prior to an interfering translator going on the air. For purposes of this inquiry, we are focusing only on the received field strength of the full-powered station. Calculating Desired-to-Undesired signal ratios for the full-powered station versus the translator is not relevant to the present inquiry. The translator is to be turned OFF during the field strength measurements, and no Desired-to-Undesired ratios are determined.

This second implementation does not involve the problematic concept of a bona fide listener, but instead uses listener complaints for the sole and exclusive purpose of identifying the offending locations. Using a simple, straightforward, objective test, complaints from station employees or owners would not be accepted. In order to conserve time and resources, the primary station would be permitted to use these

complaints to designate up to twenty offending locations. However, in order to avoid cherry-picking a single unusual or non-representative location, the licensee of the primary station would be required to designate at least three offending locations.

The average measured signal strength of the primary station is calculated at each of the offending locations to generate a set of averaged measured signal strengths. This set includes one averaged signal strength value for each offending location. A predefined minimum signal strength threshold is applied to the set of averaged measured signal strengths to identify a first set of offending locations that exceed the minimum signal strength threshold, and also to identify a second set of offending locations that do not exceed the minimum signal strength threshold. If the first set of offending locations is at least 25% of the total number of offending locations (first set plus second set), then the full-power station “wins” and the translator must move. If the first set of offending locations is less than 25% of the total number of offending locations (first set plus second set), then the translator “wins” and is allowed to remain in place.

A minimum threshold of 26 dBu is applied to the set of averaged measured signal strengths for the primary station. This represents a measured field strength, not a predicted value. This particular threshold was determined by carefully considering the factors to be described hereinafter.

Let’s use the actual received signal strength of the full-powered station at the contested location to make an inference. The signal strength can be readily measured using the procedures described at § 73.314(b). It goes without saying that listeners are much more likely to notice and remain tuned to a relatively strong signal, whereas they are much less likely to notice and remain tuned to a weak, hissy signal. Refer to page 34 of the January/February 2014 issue of Radio Guide, where well-known broadcast engineer Jim Turvaville states, “These [reference

contours] are important to understand, as they relate almost directly to the potential for the public to hear your radio station." Accordingly, if the actual measured signal strength of the full-powered station at the contested location is above a predetermined threshold, it is presumed that the full-powered station's claim of being able to attract listeners at the contested is credible. On the other hand, if the actual measured signal strength of the full-powered station is below the predetermined threshold, it is presumed that the full-powered station would be very unlikely to attract listeners at that location, even in the absence of any translator interference.

This predetermined threshold should be set to a value that represents a lower limit of the useful coverage area of an FM broadcast station. This parameter has been the subject of past studies. A typical example is, "USA Digital Radio Report on Laboratory and Field Testing Presented to the National Radio Systems Committee," December 1999, available at the NRSC website, and hereinafter referred to as the "USA Digital Radio Report". Page 15 of Appendix F states, "[T]he useful coverage area of current analog radio … lies between 25 dBu and 35 dBu." Based upon the foregoing Report (and many other similar reports) which are all based on actual field testing, the predetermined threshold should be set to a value somewhere within the range of 25 dBu and 35 dBu.

Graphs of these field strength values are plotted for several popular representative radio receivers in FIG. F-17 of Appendix F of the USA Digital Radio Report. It may be noted that the laws of physics have not changed from 1999 to the present, nor has receiver technology undergone any substantial updates. The only thing that has changed is that hundreds of AM stations have suddenly become the beneficiaries of brand-new giveaway translators at the expense of existing full-powered stations.

Another source corroborates the findings of the USA Digital Radio Report that the useful coverage area of current analog radio lies between 25 dBu and 35 dBu. The

1957 version of § 73.315 (then § 3.315) states that signals as low as 20 µV/m (the equivalent of a 26-dBu signal) will provide service in rural areas. FM receiver technology has improved immensely since 1957, with the effect that 26 dBu would represent a very conservative and usable signal strength level in the present day and age. Thus, 26 dBu should be established as the outer limit of usable, reliable analog FM coverage.

As previously indicated, pursuant to the Second Proposed Approach, this 26-dBu value is not intended to be applied to theoretical, official, on-paper F(50,50) coverage values, but rather it is to be applied to actual measured field strength values which can vary quite dramatically from values determined using the F(50,50) curves. Nonetheless, if the FCC were to ultimately decide that a "go vs. no-go" bright-line cutoff value for translator interference remediation must be selected based only on the standard F(50,50) coverage of the primary station, this 26-dBu value would represent an appropriate value in view of the findings of the USA Digital Radio Report, the older version of § 73.315, as well as a number of additional empirical listening tests that have been conducted in recent times. The 26-dBu signal level would adequately protect listeners of full-powered primary stations, and create a clear bright-line standard by which full-powered primary stations and FM translators would be able to accurately assess the viability of a proposed translator not to cause interference to listeners who have come to rely upon a licensed primary full-power station.

The Second Proposed Approach is very practical. A signal measurement performed pursuant to § 73.314(b) is a more objective parameter than scouring social media sites to find third-degree and fourth-degree connections in an effort to discredit legitimate complaints of interference. ***A signal measurement is an objective,***

format-neutral indication of the ability of a station to attract listeners at any given location.

In practice, the Second Proposed Approach would operate as follows. Assume that five offending locations are identified. At the first offending location, the average signal strength measurement of the primary station is 18 dBu. At the second offending location, this value is 21 dBu. At the third offending location, this value is 23 dBu. At the fourth offending location, this value is 25 dBu. And at the fifth offending location, the average signal strength measurement is 34 dBu. Since the actual measured field strength of the full-powered station is above the predetermined threshold of 26 dBu at only one of the five offending locations (or 20% of the offending locations), it is presumed that the first full-powered station's claim of being able to attract listeners at the contested location is not credible. In this case, the translator would be allowed to remain on the air.

Let's consider another example. Assume that four offending locations are identified. At the first offending location, the average signal strength measurement of the primary station is 24 dBu. At the second offending location, this value is 21 dBu. At the third offending location, this value is 44 dBu. At the fourth offending location, this value is 51 dBu. Since the actual measured field strength of the full-powered station is above the predetermined threshold of 26 dBu at two out of the four offending locations (50% of the locations), it is presumed that the first full-powered station's claim of being able to attract listeners at the contested location is credible. In this case, the translator would have to move.

In truth, radio listeners are listening to actual, physical signals that have physically measurable strengths. Listeners are not listening to theoretical signals plotted on a piece of paper. It doesn't matter if the F(50,50) curves would predict a 21-dBu

signal or a 120-dBu signal at the listener's actual location. The only thing that really matters is the ACTUAL MEASURED FIELD STRENGTH VALUE.

Administrative Expediency

The burden of taking measurements pursuant to § 73.314(b) will fall to consulting engineers, freeing FCC staff from having to deal with endless, time-consuming, back-and-forth attacks between the full-powered station and the translator proponent. The go/no-go determination will be based on objective factors, instead of using listeners as a means for engaging in a battle of psychological warfare. This proposal would eliminate or reduce the rampant game-playing and stonewalling that characterizes many existing translator disputes.

XIII. In Order to Prevent Enormous Legal and Technical Expenses Faced by Licensees as well as Significant Commission Staff Time in the Event of A Translator Interference Conflict, Translator CP Applications Must Be More Carefully Vetted

Constructing a translator that does not cause real-world interference is a ***thoughtful exercise that must consider local radio signal conditions in the area where the translator is to be built.*** We have engineered many translator and booster facilities in the past, none of which were ever shut down due to interference complaints. Proper engineering from the outset will prevent such complaints. Every time we have built a translator, we have been mindful not only to comply with §74.1204 (Grantable), but we also chose to take a more long-term approach knowing that we would also have to comply with §74.1203 (Survivable and Sustainable). It is the responsibility of the translator licensee to construct their facility to comply with BOTH sections of the rules. But alas, many translators are crammed into heavily populated areas where the paper requirements of §74.1204 are met (just barely), yet the

translator proponent knows or should know that they are covering up a signal from a full-power primary station that enjoys a substantial listener following.

It should be emphasized that proper engineering cannot be limited to PAPER engineering. ***Translator proponents have to conduct actual on-air listening tests.*** Or, at the very least, they need to take a look at the terrain and consider what Longley-Rice has to say. If you try to put a co-channel or first-adjacent translator in an area where a full-powered station delivers a clean, listenable signal, you are asking for trouble, even if your translator meets all of the contour protection requirements of §74.1204 on paper, and even if you are well outside of the official protected contour of the full-powered station. In these circumstances, you should either find another channel or be prepared to write lots of big checks to your favorite communications law attorney.

As a minimum threshold, translator CP applications for sites within the 26-dBu contour of a full-powered co-channel or first-adjacent-channel facility should not be accepted unless they present a supplemental Longley-Rice or other terrain-based showing that indicates lack of interference to the full-powered facility using established desired-to-undesired interference ratios.

XIV. The Issue of Proper Vetting is Going to be Especially Problematic and Troublesome in the Planned Upcoming Translator Give-Away Windows

The FM radio spectrum is very crowded in most large, desirable markets. Although it may be possible to tightly shoe-horn one or two translators into these markets, thereby satisfying §74.1204, these frequencies may all involve survivability issues under §74.1203. Such channels may have been avoided by applicants in the earlier windows, but with few channels remaining and all of them completely FREE, translator proponents have nothing to lose by filing poorly vetted applications. The

result is going to be a lot of new translator disputes and a lot of real-world interference, with all of the attendant legal and engineering expenses and all of the extra demands placed on the Commission's time.

Some Practical Examples of Vetting:

In some cases, the discrepancy between real-world coverage and the FCC F(50,50) curves can be used to provide the translator with a clean bill of health. One example is when a gigantic mountain ridge represents the practical outer limit of a full-powered station's coverage, yet the FCC F(50,50) curves incorrectly suggest that a usable signal level exists beyond the ridge. In this example, a translator could peacefully coexist on the opposite side of the ridge from the full-powered station, even if the current contour protection methodology used by the FCC shows the interfering contour of the translator butting right up against the protected contour of the primary station. The likelihood of such a translator receiving listener complaints would be minimal to zero.

In other cases, the discrepancy between real-world coverage and the FCC F(50,50) curves favors the full-powered station. In these circumstances, the translator proponent needs to exercise Restraint and Caution. A consistent, reliable, and unexpectedly high signal level from the full-powered station (in view of the F(50,50) curves) may occur due to the existence of a direct line-of-sight path where the transmitting end and the receiving end are both at high elevations many miles apart, but the intervening terrain between the transmitter and the receiver is at a much lower elevation. For example, this situation applies to our station (KIQN), where regular listeners reside in areas that are 50 to 80 miles north of our transmitter site. At least two other stations located in the vicinity of our transmitter site (KFEZ and KRYE) fall into the same category.

At these distances, the official F(50,50) curves show predicted field strengths in the neighborhood 37 dBu for these stations, yet this number is highly misleading. As a practical matter, these listeners are NOT receiving a weak, marginal signal. In fact, our relatively high signal level 50-80 miles to the north of our transmitter site is completely corroborated by a number of widely-accepted alternative propagation prediction methods including Point-to-Point and Longley-Rice. Anyone familiar with the area would be aware of this situation, but someone only limiting themselves to F(50,50) calculations is going to miss the boat.

At the foregoing listener locations, actual field strength measurements performed by an experienced professional engineer using a properly-calibrated Potomac FIM-71 field strength meter at 2 to 10 meters above ground indicate consistent, reliable, day-after-day signal levels in the range of 63 to 74 dBu, as measured over the course of many months. This is not a rare anomaly, but something that occurs throughout mountainous states such as California, Nevada, Colorado, Connecticut, and Pennsylvania. In fact, there are many full-powered stations in situations similar to ours, where the on-paper F(50,50) values just don't correspond very well to reality. Translator proponents need to study these situations properly and carefully before moving forward with an application that might not be sustainable, or that might result in a tiny area of practical coverage within a vast sea of interference.

XV. Expedited Remediation Procedures & On-Off Testing

We propose that the following procedures be used *in conjunction* with our Second Proposed Approach to translator interference remediation (refer to Section XII). If a granted translator interferes with a primary station, upon notification from the licensee to the Commission including interference reports from listeners who are not owners or employees of the primary station, the Commission will, within 48 hours of the receipt of the notification:

(a) order the immediate cessation of translator transmissions; and

(b) within 48 hours of the cessation notice, send either an FCC engineer or a local engineer mutually agreeable to the translator licensee and the full-powered station to conduct actual field strength measurements at the sites of the interference reports (the “offending locations”); and

(c) within 48 hours of the cessation notice, send either an FCC engineer or a local engineer mutually agreeable to the translator licensee and the full-powered station to conduct actual field strength measurements at the sites of the interference reports; and

(d) within 48 hours of receiving the field strength measurements, the Commission will issue a ruling in accordance with the previously-described Second Proposed Approach to translator interference remediation. In the event that the translator licensee and the full-powered station do not agree on a local engineer, the FCC will appoint an engineer.

These procedures are intended to provide a fair, impartial, expedited and vastly improved translator interference remediation process. AM revitalization is an important and positive FCC initiative, but it cannot move forward without full consideration of existing primary station audiences, built and sustained by extensive primary FM station owner investment.

XVI. The NAB’s Proposal to Allow FM Translators to Move to Any Available Channel to Resolve Interference Lacks Adequate Safeguards And Will Result in a Free-For-All

The NAB Petition asserts that the Commission should allow FM translators to move to any available channel to resolve interference. Although this is a helpful

suggestion in theory, the NAB's implementation is flawed. On Page 6 of the NAB Petition, it is stated, "In addition, a translator licensee should be allowed to submit an affidavit and engineering statement to demonstrate the interference. This approach would obviate the need for complaints from listeners of the disrupted full-power station…"

The NAB's proposed approach is tantamount to providing the translator operator with a blank check. The translator operator merely has to locate a consulting engineer who is willing to sign a statement that establishes some vague showing of interference, and presto – they can strategically move to another frequency so as to maximize interference with a long-standing competitor, to keep a competitor out of the market, or to take over a new channel that could be used in the future by LPFMs or non-AM translators.

Safeguards need to be put into place to ensure that any frequency change is properly supported by an adequate engineering showing that uses a terrain-sensitive alternative propagation methodology (for example, Longley-Rice and not the misleading F(50,50) curves) to establish a reduction in interference. If the Commission merely rubber-stamps any and all engineering studies that are submitted, this approach is not going to work.

If this proposal is accepted, then the same concept should apply to all translator interference remediation scenarios. Thus, whenever a full-powered station is experiencing interference, the primary station should be able to initiate the remediation process simply by procuring an engineering statement to demonstrate the interference, and not by having to endure a lengthy and burdensome listener complaint procedure. It's only fair.

XVII. AM Translator Proponents Complain About Spending $20K for a Translator While Full-Powered Stations Have Invested Millions to Build Out and Promote Their Operations

FM translator proponents are complaining about the alleged inequities of spending $20K or $50K for a translator that could be thrown off the air. The previously-cited Stine article includes a quote from Ed Henson. Ed stated, “But yet, theoretically, it takes just one official compliant to negate all the work an AM owner has done to buy a translator, pay for engineering work and file the paperwork with the FCC. It has to be frustrating to go through that and scary to go through.”

When AM operators purchased their AM stations, they knew exactly what they were getting into. They were paying an AM price for an AM station. They were not paying an AM price, only to be rewarded with the windfall of obtaining a primary-service FM in the process. And then, when the translator giveaway window opened, the AM station owners knew exactly what they were buying: a secondary-service translator. The translator was priced accordingly, not as a full-powered facility, nor was it never warranted to be a primary service. Now, with their $20K investments and giveaway translators, these AM owners are yelling and screaming that they want to be given the right to cut ahead of established full-powered FM stations. They are demanding the very best pieces of the FM dial in downtown areas of cities both large and small. They want squatters’ rights to snuff out your full-powered signal, and then they want you to be powerless to do anything about it.

A full-powered station can easily spend Millions of dollars and several years of time on engineering consultants, environmental consultants, NEPA studies, archaeological walks, Section 106 reviews, invoices received from dozens of interested Indian tribes, FAA reviews, local zoning boards, tower erection crews, specialized antennas, pressurized transmission lines, and transmitting equipment to

plan and build a full power FM radio facility. With the enactment of the National Programmatic Agreement, the FCC has all but ensured that smaller businesses will no longer be able to afford to construct new towers due to all of the unnecessary bureaucratic hurdles and exhaustive environmental studies that are involved. Even Sprint was not happy about paying $173,000 in tribal consulting fees just to put up a group of simple flagpole antennas near a sports stadium in Houston. These regulations are getting out of hand.

Then, after the radio station is finally built, an appropriate format has to be selected, and the station needs to be properly promoted throughout its target service area. It may take years and years to build up station listenership and goodwill.

Now let's consider the typical procedure for constructing a translator. Hire an engineer to perform an interference study for a few thousand dollars. File an application with the FCC which will be approved by the end of the week due to expedited "rocket docket" processing of all incoming AM translator apps. Throw a single-bay antenna onto the roof of a building on a Saturday afternoon. You are done.

After spending upwards of several million dollars carefully planning and building a state-of-the-art full-power facility over the course of several years, it is not a fair "rebalancing of the equities" for a $20,000 translator to now be given squatters' rights to displace and destroy a legacy full-power FM station by snuffing out the full-powered station's largest and most valuable listener base (typically those who live and work in Downtown Big City, or at the core of some other desirable and heavily populated area where only a translator but not a full-power station can be squeezed in), while at the same time making it much more difficult for the full-powered station to do anything about the problem.

XVIII. The Translator Construction Process is Not Closely Monitored, Thereby Increasing the Potential for Interference to Full-Power Stations.

There are some existing situations where translator operators have attempted to take advantage of the lack of oversight inherent in the translator construction process. For example, one translator operator installed an omnidirectional antenna near the heart of San Antonio, Texas, where the authorized construction permit actually mandated installation of a directional antenna with a very deep null to properly protect a full-powered co-channel station (KRPT) with listeners in San Antonio. For further details, refer to Petition for Revocation of Authorization, Siga Broadcasting Corporation, filed December 7, 2016 against translator station K226BY/K223CT, Facility ID #147322, operating at 92.5 MHz. Due to the time and effort involved to identify and prosecute these illegal translator installations, it would be inappropriate to implement any "rebalancing of the equities" to place full-power stations at a further disadvantage when interference needs to be expeditiously remediated.

The complaining full-powered station, KRPT-92.5, only puts a 38-dBu to 48-dBu F(50,50) signal contour over San Antonio, and this was the primary area where KRPT was complaining of translator interference. KRPT-92.5 has many existing listeners in San Antonio, despite not placing an official F(50,50) protected contour over the city. Even if the translator was operating with its legally authorized facilities, existing KRPT listeners do not deserve to be deprived of their enjoyment of KRPT due to the invasion of a new giveaway AM translator with full squatters' rights.

Some AM translator proponents are not content to co-exist with primary stations under the existing interference remediation scheme. Instead, these AM translators would rather be provided with a mechanism for stealing coverage in the most valuable areas (i.e., downtown) away from established full-powered stations, with

the primary station not being able to do anything about it. In this case, K226BY/K223CT could have stolen the entire city of San Antonio away from KRPT if the primary station hadn't taken any action.

In addition to the foregoing problems, we have observed more than one situation where a translator operator has specified use of a single directional Scala CA2-CP circularly polarized antenna in their granted construction permit. But contrary to the terms of their official FCC authorization, they proceed to install a stacked array of two CA2-CP circularly polarized antennas, apparently taking advantage of a perceived ambiguity in how the manufacturer specifies the model number of this particular antenna. They proceed to feed the array with the amount of RF power that would produce the required ERP if only a single CA2-CP antenna was deployed. The end result is a translator with an actual ERP that grossly exceeds what is authorized, thereby creating real-world interference even when everything looks good on paper. These situations create added burdens on full-power stations that are affected by the over-powered operation of the translator facility.

Some translators are using 1-kW and 2-kW solid-state transmitters. This is far in excess of what is actually needed for most legally-compliant operations, even taking into consideration the most pessimistic assumptions regarding line losses. Unlike the situation with full-power stations, it is now trivially easy for the translator operator to crank up their RF output power to whatever level is required to snuff out any sign of incoming interference, and/or to provide full-market coverage. Given typical line losses, and the typical higher-gain antennas used by translators, the authorized transmitter power output (TPO) of the translator may be in the range of 100 to 250 watts.

By selecting an over-powered transmitter, a typical translator with an authorized transmitter power output of 200 watts has the capability of readily increasing its

effective radiated power (ERP) immensely. Their high-gain antenna can be fed with almost 1 or 2 kilowatts of input power by the simple push of a button on the front panel of the transmitter. In this manner, a translator that is authorized for 200 watts of transmitter power output (TPO) would actually be using 2000 watts of TPO, a tenfold increase, with the motivation being to make the translator easier to hear on portable radios and boom boxes, and to override incoming interference from full-powered stations. If a translator is co-located with one or more full-power stations, field strength measurements can be used to formulate an extrapolation as to whether or not the translator is operating at an appropriate power level.

XIX. Translators Use Off-The-Shelf Directional Antennas that Do Not Provide the Required Amount of Protection to Full-Powered Primary Stations When These Antennas Are Mounted On Actual Towers

Many translators are using off-the-shelf directional antennas that do not provide the required amount of protection to full-power, primary stations. These antennas have actual patterns that differ dramatically from the laboratory patterns once the antennas are bolted to a real tower. The end result is unacceptable and unpredictable interference to full-powered stations. The actual antenna pattern is never discovered because there are no proof-of-performance requirements.

Unlike the case with directional full-power stations, installation of a translator antenna is not required to be verified by a surveyor. There are situations where directional antennas were specified in a translator CP to protect a full-power station, yet when the directional antenna is actually installed, it is aimed in a different direction than that specified in the CP. In some cases, the error might be inadvertent, whereas in other cases, the antenna somehow aligns itself so that the main lobe is aimed directly at the major population center, and/or directly at the full-powered station on the first-adjacent channel.

XX. Nothing Has Changed That Would Justify Any Rebalancing of the Equities

The only relevant change that has occurred since the translator remediation rules were first enacted is that AM stations have been granted extreme flexibility in terms of procuring and relocating translators. Yet the AM broadcasters are still not satisfied. They will not be satisfied unless the FCC accords their translator rebroadcasting stations full primary status. They will not be satisfied until the FCC kicks all of those pesky full-powered stations to the curb, especially if the full-powered station in question happens to have a transmitter site 25 or more miles away from the downtown central business district. It's also worth mentioning that many of these so-called "failing" AM stations were once part of a thriving AM-FM combo where the owner cashed out years ago by selling the FM to a large corporate cluster for millions, and now the owner is crying "poor, poor me," hoping to be handed a huge windfall yet again.

It is manifestly unfair that the FCC has hosted a Translator Giveaway that is only open to AM licensees. All AM stations, regardless of need, have been given the right to a shiny, brand-new FM translator. Do stations like 50,000-watt WIBC-1070 in Indianapolis really need an FM translator to revitalize their business operations? And what about KRDO-AM in Colorado Springs, which is paired with a full-powered FM flamethrower (KRDO-FM) atop Cheyenne Mountain? Will their translator (which is now co-located with the flamethrower) somehow serve people that the full-powered station does not reach? And yet another channel that could have provided unique programming is gone forever.

Meanwhile, other licensees including standalone full-power FMs and LPFMs have had to sit on the sidelines while their coverage areas are shredded to pieces by brand-new translators in the heart of the downtown business district. And those of us who participated in the FM auctions for full-power allotments have been royally

screwed. The FCC tells us we can just go out and buy a translator. Oh, really? We are faced with the choice of buying an existing translator for an extortionary, beyond-the-beyond price (a mid-six-figure price well in excess of the cost of our full-power allotment) from one of the greedy beneficiaries of the Great Translator Invasion of 2003 who obtained the very same translator for FREE. And our other choice, by default if we don't win the State Lottery, is to simply sit on the sidelines while all of the available frequencies get grabbed up by LPFMs and AM stations.

XXI. Conclusion

We agree with the overall sentiment expressed in the NAB Petition that the existing translator interference remediation process is in need of improvement. However, we disagree with some of the specific rules and policy changes suggested by NAB. Although a few of these proposals may appear to be benign or innocuous, they will have the practical effect of making it even more difficult and time-consuming for full-powered primary stations to expeditiously address interference caused by new translators.

The existing translator remediation scheme is dysfunctional because social engineering has been allowed to replace RF engineering. The concept of "bona fide listeners" is being misused and misapplied. Translator operators use any alleged connection, however remote or contrived, in an attempt to discredit legitimate complaints from further consideration. This manipulation facilitates a situation where translator operators are allowed to delay, stall, and stonewall for excessive periods of time, with the translator making money during the delay and the full-powered station getting the short end of the stick. The translator operator has no incentive to work towards a resolution. The result is a stalemate where nothing gets resolved.

Social engineering needs to be decoupled from radio engineering. In order to prevent enormous legal and technical expenses faced by licensees, as well as significant Commission staff time in the event of a translator interference conflict, the concept of a "bona fide listener" needs to be replaced with an objective "Go/No-Go" engineering determination. Because the FCC "vets" translator applications using the F(50,50) and F(50,10) propagation curves, many cases of translator interference occur where these propagation curves are NOT fairly representative of actual, real-world coverage. Thus, we have presented two proposals for consideration.

A first proposal uses Longley-Rice or Point-to-Point propagation methodology in conjunction with established Desired-to-Undesired interference ratios to determine whether or not a translator is interfering with a primary station. A second proposal uses actual measured signal strength values at a set of offending locations to determine whether or not the translator is interfering with the primary station. This second proposal operates in conjunction with a translator on-off test. Either of these proposals is more objective than the existing social engineering approach which is subject to manipulation, and which results in wildly unpredictable outcomes for translator proponents as well as owners of primary stations.

Respectfully Submitted,

Steven R. Bartholomew

Steven R. Bartholomew
President
Pueblo Broadcasting Group LLC
2099 U.S. Highway 50 West, Suite 130B
Pueblo, CO 81008
beaconmountain@yahoo.com

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